Approved For Release 2003/08/18 : CIA-RDP79B01709A003500030027-3

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COMOR-D-47/5

25 September 1961

MEMORANDUM FOR:

United States Intelligence Board

SUBJECT:

Intelligence Requirements for Aerial Photo Reconnaissance Relevant to the Current and Impending International Situation

1. In accordance with the decision of the United States Intelligence Board on 31 August 1961, the Committee on Overhead Reconnaissance has reviewed the critical needs of United States intelligence which should be satisfied in order to provide the intelligence support for anticipated policy decisions which will face the United States Government during the current international crisis.

2. The COMOR believes that the timely acquisition of high resolution photography is essential to answer these critical intelligence needs and recommends that U-2 photography be obtained on certain highest priority targets as outlined in the attached paper. In making its recommendation, the COMOR recognizes that any resumption of overflight operations of the USSR will involve certain risk factors both from an operational and political standpoint. Accordingly, COMOR has examined most critically the objectives which it recommends for coverage, and the justification which it submits.

NAVY review completed

Approved For Release 2003708 18 : CIA-RDP79B01709A003500030027-3

Justification for U-2 Photography over the USSR

- 1. Policymakers of the United States Government will require the firmest possible knowledge of the Soviet military posture and state of alert during the current period of international tension. In this connection the most critical intelligence problem concerns present Soviet ICBM capabilities.
- 2. Satellite photography has identified deployed ICBM complexes in the USSR. However, there are a number of critical missile and related military questions which cannot be answered with satellite photography of present quality. Photography obtained by the U-2, being of greater interpretability, will contribute to the solution of these problems. In addition, the U-2 can be operated in optimum weather conditions against specific highest priority targets as opposed to the nonselectivity of coverage of the current satellite systems.
- 3. A most critical problem relating to the ICBM concerns its deployment and operational status--specifically, for example, whether sites are operational or under construction, salvo capability, the extent of hardening, the type of guidance, the nature of support and missile handling facilities, the refire capability. We have acquired coverage of the Plesetsk area with satellite photography on four occasions; in each of these the area

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was partially obscured by clouds. Nonetheless, through the openings it was possible to discern that at Plesetsk there are extensive highly secure complexes, defended by SAM sites. From this photography we cannot confirm that this installation is an ICBM complex. However, from this photography and collateral information, we strongly suspect that this is a first generation ICBM complex, as distinct from our current conclusion bearing upon the second generation ICBM complexes discussed below. The attached photographs of Plesetsk demonstrate the effect of cloud cover and the difficulties involved in definitive interpretation of satellite photography.

- 4. We have also located with satellite photography four deployed ICBM complexes--Yurya, Yoshkar-Ola, Verkhnyaya Salda, and Kostroma--which we believe to be intended for the second generation ICBMs. However, we do not have sufficient information to determine their operational readiness or whether first generation ICBMs are being deployed on them. The quality and resolution of satellite photography which we have secured, or which we anticipate in the next six months will be secured, does not permit sufficiently accurate photo interpretation to answer these questions.
- 5. These questions can be answered by photography with the U-2 resolution on the order of three feet on the side. Additionally, the U-2 photo system provides stereo, an important advantage not available in the current satellite photo systems. An appreciation of the difference between U-2 and



examination of the exhibit of Tyuratam and Kapustin Yar attached. The technical data displayed on the accompanying drawings cannot be obtained from satellite photography. Such technical data are required on the ICBM complexes in order to determine the operational status and the nature of the threat. The U-2 is the only controlled vehicle with a chance of survival which has the photographic capability of providing this photography.

- 6. The required information cannot be obtained within the necessary time limit by means of any other source. U-2 could be processed and given preliminary analysis within ten days of acquisition.
- 7. It is recommended that U-2 coverage by obtained on the following highest priority targets in the order listed: Plesetsk, Yurya, Yoshkar-Ola, Verkhnyaya Salda, and Kostroma.
- 8. In addition to obtaining vital data on known ICBM complexes, an equally critical problem is the fact that certain highest suspect objectives relating to ICBM/MRBM deployment sites have not been covered with adequate or usable photography to date. In effect a number of ICBMs and MRBMs sites remain unlocated. Nor do we know the operational status of known MRBMs. Similar information is lacking also on the Soviet sub-launched threat. Of paramount importance in this respect is a complete appreciation of the total Soviet ICBM threat against the United States at the earliest possible

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date. For example, weather and resolution on the six satellite efforts to date have not provided usable coverage of the Olenya-Kandalaksha-Arkhangelsk-Plesetsk area, one of the highest suspect areas for ICBM deployment. Additionally, weather north of Gorkiy, Kazan, and Sverdlovsk, other areas of prime concern relating to ICBM deployment, has only enabled us to see 40 per cent of suspected ICBM areas. We have found four ICBM complexes in the areas we have seen north of these complexes. While it is not proposed that the U-2 be employed on a general search in the area most suspect for ICBM deployment, it is proposed that it cover specific highest priority ICBM objectives that have not been previously covered in conjunction with proceeding to and from the confirmed ICBM complexes. Specific targets relating to the above will be proposed as operational planning proceeds, these proposals to take into account any relevant information such as from new satellite photography.

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Navy Footnote to COMOR-D-47/5

- 1. The Navy agrees that the ICBM problem is critical, but we cannot agree that the most critical intelligence problem facing the U.S. is the Soviet ICBM capabilities as stated in paragraph 1 of the "Justification for U-2 Coverage."
- 2. The missile threat to the U. S. and its Allies must include and consider the sub-launched missile threat in being fully as effective and probably more effective than the estimated Soviet ICBM capability on the basis of present intelligence available. For instance, we have photographs at sea of deployed Soviet operational guided missile submarines. There are at present thirty GOLF, HOTEL, and ZULU submarines capable of firing ballistic missiles. We have confirmed four ICBM site locations in the Soviet Union from KEYHOLE photography. The most recent estimate of the intelligence community concerning firing capabilities indicates they may have twenty-five operational ICBM vehicles but more probably a token force of ten or eleven.
- 3. The question of the launching capability relates directly to the sub-launch problem as fully as it does to the ICBM, and in terms of the immediate threat is more important. The unknown factors are the technical characteristics, size, deployment, and operational status of the Soviet missile submarines.

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- The photo capabilities of the U-2 camera system to answer 4. these questions as opposed to satellite photography apply in the submarine problem as well as in the ICBM problem. For example, vertical photography with a ground resolution provided by the U-2 camera system would enable us to establish more precisely the physical characteristics of the sub missile; mensuration would be possible to determine the difference between ZULU, GOLF, and HOTEL subs; the size of sail areas would provide necessary data as to the number of missile tubes on each of the subs covered, and the correlation of in port numbers of subs with COMINT and other sources of intellegence would provide an accurate determination of the size of the sub force and more importantly, an indicator of alert status.
- It is therefore concluded that the Soviet guided missile sub 5. problem, i.e., size, deployment, operational and alert status are just as important as the ICBM problem and it is recommended that the Soviet missile sub coverage be included as a highest priority requirement along with the ICBM.

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Introduction to Exhibits

Detailed technical analysis, similar to that obtained by the U-2 (and illustrated in the attached exhibit) is not possible with current satellite photography.

Satellite photography permits the readout of gross data such as the existence of deployed ICBM sites. However, even with maximum enlargement, or use of transparencies, the scale and resolution of satellite photography precludes detailed analysis required for technical data.

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14--OCI TCO

15--OSI TCO

16--ORR TCO

17--DIR NPIC

18--TSO CIA

19--C/DMD/NPIC

20--DDP TCO

21--Intel Staff/DPD

22--SO/DPD

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